

BRITISH COLUMBIA DEPARTMENT OF LANDS

FOREST SERVICE

HON. WILLIAM R. ROSS, K.C., Minister of Lands

---

# BRITISH COLUMBIA TIMBER FOR PRAIRIE FARMS

---

## SHEEP BARNS

FARM BUILDINGS SERIES

BULLETIN No. 5



THE GOVERNMENT OF  
THE PROVINCE OF BRITISH COLUMBIA.

---

VICTORIA, B.C.:

Printed by WILLIAM H. CULLIN, Printer to the King's Most Excellent Majesty.  
1915.

# BRITISH COLUMBIA

---

## *LUMBER, SHINGLES*

*and other products of*

*Douglas Fir*

*Western Larch*

*Mountain Western Pine*

*Western Red Cedar*

*Western Hemlock*

*Spruce*

*Western White Pine*



# British Columbia Timber for Prairie Farms.

---

## SHEEP BARNS.

---

### CONTENTS.

---

	PAGE.
The Lumbering Industry of British Columbia .....	5
Sheep-raising .....	7
Establishing a Farm Flock .....	8
Management of Breeding Flock .....	9
Sheep Barn No. 1 .....	11
Sheep Barn No. 2 .....	14
Sheep Barn No. 3 .....	17
Sheep Barn No. 4 .....	24
Feeding Devices .....	26
Fencing .....	29
Wood as a Building Material .....	31
Woods to use .....	32
British Columbia Forest Service Bulletins .....	33
Other Publications .....	34



# THE LUMBERING INDUSTRY

OF

## BRITISH COLUMBIA.

---

### TO THE PRAIRIE FARMER.

In the forests of British Columbia there stands to-day more than half Canada's supply of commercial timber. Forest surveys made during recent years throughout the Province show 30,000,000 acres of timber ready for the market, and 45,000,000 acres of younger growth that will reach commercial size during the present century. The present merchantable stand is estimated at 400,000,000,000 feet board measure.

Taught by the experience of older countries, British Columbia has adopted a vigorous conservation policy and is carefully protecting her vast forest areas from fire and misuse.

The manufacture of lumber and other wood products is the most important industry of this forest Province. Each year 1,500,000,000 feet of timber is cut to supply the sawmills, pulp and paper mills, and other wood-using factories west of the Canadian Rockies. But the forests produce more wood each year than the mills can find markets for, and so much timber goes to waste. The most of the timber is public property; the prosperity of the Province depends very largely upon the lumbering industry; and it is therefore the duty of the Government to help secure the widest possible market for British Columbia lumber both in foreign countries and in Canada.

The main market for Western lumber to-day is in the Prairie Provinces of Canada. Each farm is, after all, a factory for agricultural produce and needs a well-built plant like any other factory. This means good buildings—a comfortable, convenient house, good barns, granaries, silos, fences, and shelter for machinery. The best material for this is wood. It is cheap, handy to use, warm, sanitary, and it lasts. British Columbia therefore desires to give the citizens of Alberta, Saskatchewan, and Manitoba full information concerning her forest products, asking them to bear in mind that these products are “grown and manufactured in Canada,” and that trade

between the Provinces of the Canadian West is the surest foundation for our common prosperity.

### **The Bulletins.**

Valuable bulletins on farm buildings are now being issued by agricultural authorities all over Canada and the United States. The College of Agriculture of the University of Saskatchewan was engaged in this most useful work; the Government of British Columbia entered into a co-operative agreement with the University, and the series of farm bulletins listed on pages 33, 34 of this booklet is the result. The agricultural information contained herein, and the plans and bills of material were prepared under the immediate supervision of Mr. W. J. Rutherford, Dean of the College of Agriculture, and thus give up-to-date and authoritative views on the agricultural subjects dealt with. The information concerning lumber is supplied by the Forest Service of the Government of British Columbia.

In the building plans, five things are aimed at in particular:—

- (1.) That they should be specially designed to meet Prairie conditions.
- (2.) That they should be simple and practical to meet the needs of the average farmer.
- (3.) That ordinary stock sizes of lumber should be used throughout in order to keep the cost low.
- (4.) That it should be easy for the farmer to make additions to the buildings whenever more accommodations should be needed.
- (5.) That the details of the plans should be readily alterable to suit individual needs.

The plans printed in these bulletins show enough detail for them to be used as working plans. Any one wishing to obtain large-scale working plans can secure them at cost by writing to the **Chief Forester, Victoria, B.C.** A reference list of bulletins and of sources of agricultural information will be found on the last page.

### **Note.**

While it is understood that the agricultural authorities in Alberta and Manitoba have already published pamphlets on farm buildings, and contemplate issuing others, it is believed that all Prairie farmers will be interested in the British Columbia bulletins, and editions for general distribution on the Prairies have accordingly been printed.

# UNIVERSITY OF SASKATCHEWAN.

COLLEGE OF AGRICULTURE,

WALTER C. MURRAY, *President.*

W. J. RUTHERFORD, *Dean.*

## Sheep Barns for Prairie Farms.

BY A. R. GREIG, PROFESSOR OF AGRICULTURAL ENGINEERING, AND A. M. SHAW,  
PROFESSOR OF ANIMAL HUSBANDRY.

### SHEEP-RAISING.



THE raising of sheep is a branch of the live-stock industry that has not received as much attention from the farmers of Western Canada as it deserves. When a man's attention is turned toward mixed farming or stock-raising he immediately thinks of horses, cattle, and hogs—not sheep. At least, this is true of a very large number of farmers in the West to-day. In some cases it is due to the fact that they think of sheep only as they are found in large bands under range conditions; they consider sheep-raising a specialized line of work and fail to connect it with the business of mixed farming.

Although the range-sheep industry is a profitable one where properly handled, the profits derived from it do not compare with those derived from the well-managed farm flock. There is room for a small flock on every farm, and in comparison with other classes of farm animals, sheep can be relied upon, if properly cared for, to return a greater net revenue for the original investment than either cattle, horses, or hogs.

There are many reasons why a farmer should keep sheep along with the other and more common classes of farm live stock.

(1.) A start can be made without any great outlay of capital. One hundred dollars will put one in possession of a good foundation flock of grade ewes that will rapidly increase and can easily be graded up by the use of a pure-bred sire.

(2.) Sheep are dual-purpose animals. They produce two valuable and saleable crops each year—wool and lambs. The former ready for market in early summer and the latter in autumn.

(3.) The labour in connection with the handling of sheep is light as compared with that required by other animals.

(4.) They will greatly aid in ridding a farm of weeds, and in this connection are of inestimable value to the grain-grower, who invariably has the weed problem to face. They are of great value to him in keeping the summer fallow free from weeds and other growth.

(5.) They will thrive on a class of food that cannot be profitably disposed of in any other way—i.e., roughage of various kinds, gleanings among the stubble, and making use of all shelled and broken grain that otherwise would be wasted.

(6.) They do not require expensive buildings, but can be housed in comparatively cheap shelters.

(7.) Sheep are essentially grazing animals and can be successfully raised to maturity without the use of grain. Roughage of all kinds is abundant; in fact, it is the cheapest product of Western farms, and enough of it is wasted in the fields or burned up in the form of oat-straw and wheat-chaff in many districts to winter thousands of sheep.

The addition of grain to the sheep ration is beneficial, but even here they have an advantage over other classes of stock. It has been found that a far greater return can be obtained by feeding screenings to sheep than by feeding it to hogs or cattle. Screenings are the cheapest and most worthless grade of grain we have, and simply consist of the broken and shrunken grains of wheat, oats, or barley, together with a certain amount of chaff and innumerable weed-seeds. It does not have to be ground, as the sheep's digestion is perfect, and no weed-seeds are passed through as with other stock. If all the grain were cleaned before shipment and the screenings thus obtained fed to the sheep or lambs a considerable profit could be derived from it; the cleaned grain would grade better, there would be no dockage for weed-seeds, and the freight on the screenings from the farm to the terminal elevator would be saved.

#### **ESTABLISHING A FARM FLOCK.**

For the average Western farmer or the beginner with sheep the purchasing of pure-bred animals usually incurs too great an expenditure of capital, and it would, as a rule, be better, all things considered, to commence with grade ewes. These can be obtained easily and comparatively cheaply in Western Canada. They are to be found in large numbers on the ranges of the south-west and are quite suitable for foundation stock, being ranch-bred, and consequently hardy. A



good time to buy them is in late summer or early autumn, and in making a selection only ewes two to four years old of uniform type and character should be chosen.

A pure-bred ram of any of the medium-woolled or Down breeds should be secured and used on these ewes. The Down breeds are mentioned simply because they combine the mutton and wool characteristics to a marked degree, and are generally considered a trifle hardier under conditions than the long-wools. This, however, is a matter of choice, as there are many instances where success is being attained by the use of the long-woolled breeds. The important part about it is that the ram must be pure-bred and as good an individual as possible. If rams of the same pure breed are used consecutively on a flock of common ewes, it is only a matter of a few years until the flock will be to all intents and purposes as good as pure-breds.

#### MANAGEMENT OF BREEDING FLOCK.

*Feeding.*—During the summer the flock should be provided with pasture of some kind. Native prairie or scrub land will answer all requirements, or tame pastures, such as peas and oats, barley, winter rye or rape, can be sown for them, a few acres of which will furnish abundant pasture for forty or fifty ewes and their lambs.

Another source of summer feed is to be found in the weeds, grasses, and volunteer grain which grow, as a rule, on the majority of summer fallows. Although the best method is to keep the fallows entirely free from weed-growth, yet in practice it is extremely difficult to do so. The sheep will greatly aid in this, and they also pack and fertilize the soil in travelling over the fields, and thus help to increase the crop.

If the pastures are good the sheep will require no grain. Care must be taken when sheep are changed from bare pastures to rich, luxuriant ones, for if they are turned into a fresh field of rape or other succulent feed and allowed to eat their fill, bloating will result and considerable loss may be sustained. It is best to accustom them gradually to the new feed by turning in for only an hour or two in the afternoon at first, increasing the time gradually for a few days. They should have free access to salt and be furnished plenty of water to drink.

*Breeding.*—The breeding season will commence in Western Canada in the majority of cases about November and the fore part of December. As the period of gestation is approximately five months, the

lambs are due to arrive in April and May. Earlier lambs can be raised, but unless the breeder is prepared to give them special care it should not be attempted.

During the winter is the time when many beginners come to grief, the chief reason being that they allow the pregnant ewes to become too fat. A very fat ewe cannot raise strong, healthy lambs. They should be kept in moderate flesh, be given plenty of exercise, afforded shelter from the storms, and fed on as great a variety of roughage as possible. No grain feed is required, if the roughage is of good quality, until within a month or two of lambing-time, and then they must be accustomed to it gradually. Whole oats or screenings are a suitable grain feed— $\frac{1}{4}$  lb. per ewe at first, increasing to about 1 lb. per day to each mature ewe at lambing-time.

*Care of the Ram.*—During the summer the ram should not be allowed to run with the ewes, but should have a paddock by himself where he will get plenty of exercise and green food. Previous to the breeding season he may receive a small ration of grain, preferably whole oats, but should on no account be allowed to get very fat.

The usual practice with small flocks is to allow the ram to run with the ewes during the breeding season, but a better method is simply to smear the breast of the ram with keel or lampblack and turn him with the ewes each night, returning him to his own quarters during the day. This will mark the ewes so that a record can be kept of the exact time each one is due to lamb. A mature ram will serve forty to fifty ewes, a shearling twenty-five to thirty.

*Docking and Castration.*—These should take place when the lamb is about ten days old. At this time no serious results are likely, and any one can perform the operations with a little practice.

*Shearing.*—The flock will, as a rule, be ready to shear soon after the spring seeding is over, in the latter part of May or June. This should be attended to at the proper time and the wool properly tied and packed. This part of the sheep industry has received a good deal of attention recently in the various Western Provinces, with the result that the increase in prices obtained, due in a large measure to improved methods of handling and to co-operative marketing, has been very considerable.

*Housing.*—Sheep can be housed more cheaply than any of our other classes of live stock. They do not require elaborate buildings.

Simply a shelter from storms and protection from the winter winds are necessary. These shelters can be furnished in various ways—in some instances simply by the use of straw-covered sheds; but where the keeping of sheep is to be made a permanent business suitable buildings should be erected. Owing to the natural protection afforded by the wool, sheep suffer little from the cold; consequently much more cheaply constructed buildings will answer than if this were not the case. Plenty of ventilation is absolutely necessary, and rather than keep sheep in a poorly ventilated basement barn or stable it would be preferable to winter them entirely out-of-doors.

### SHEEP BARN PLANS.

#### Sheep Barn No. 1.

In Fig. 1 is shown an inexpensive building which will be found suitable in every way for the keeping of sheep. It is simply a frame building 16 x 50 feet, without any interior fittings, not even fixed mangers or feed-racks, so the entire floor-space can be used for shelter. The windows are arranged to open in, and should be open at the top most of the time, as also should the door, to amply provide for fresh air. The inside of the wall is covered with shiplap to a height of 4 feet to eliminate draughts. The barn should be built on a knoll, or, at any rate, where ample drainage is afforded. If the interior is filled with earth to a height of several inches above the outside soil a dry floor is assured. This is an essential point, as sheep will not thrive when forced to live in buildings with damp floors.

No provision is made for feed overhead, the idea being to haul roughage from stacks and to feed it during a large part of the time from racks out in the open on the south side of the sheep-barn. With this method of feeding a hundred ewes can be wintered comfortably in a barn of this size.

Plenty of light is provided by the windows on the south side; the north wall being left windowless. A large door on the south side at one end makes it easy for the sheep to pass in and out without crowding. If a large yard is provided on the south side of a building such as this, first-class winter quarters will have been provided for the animals.

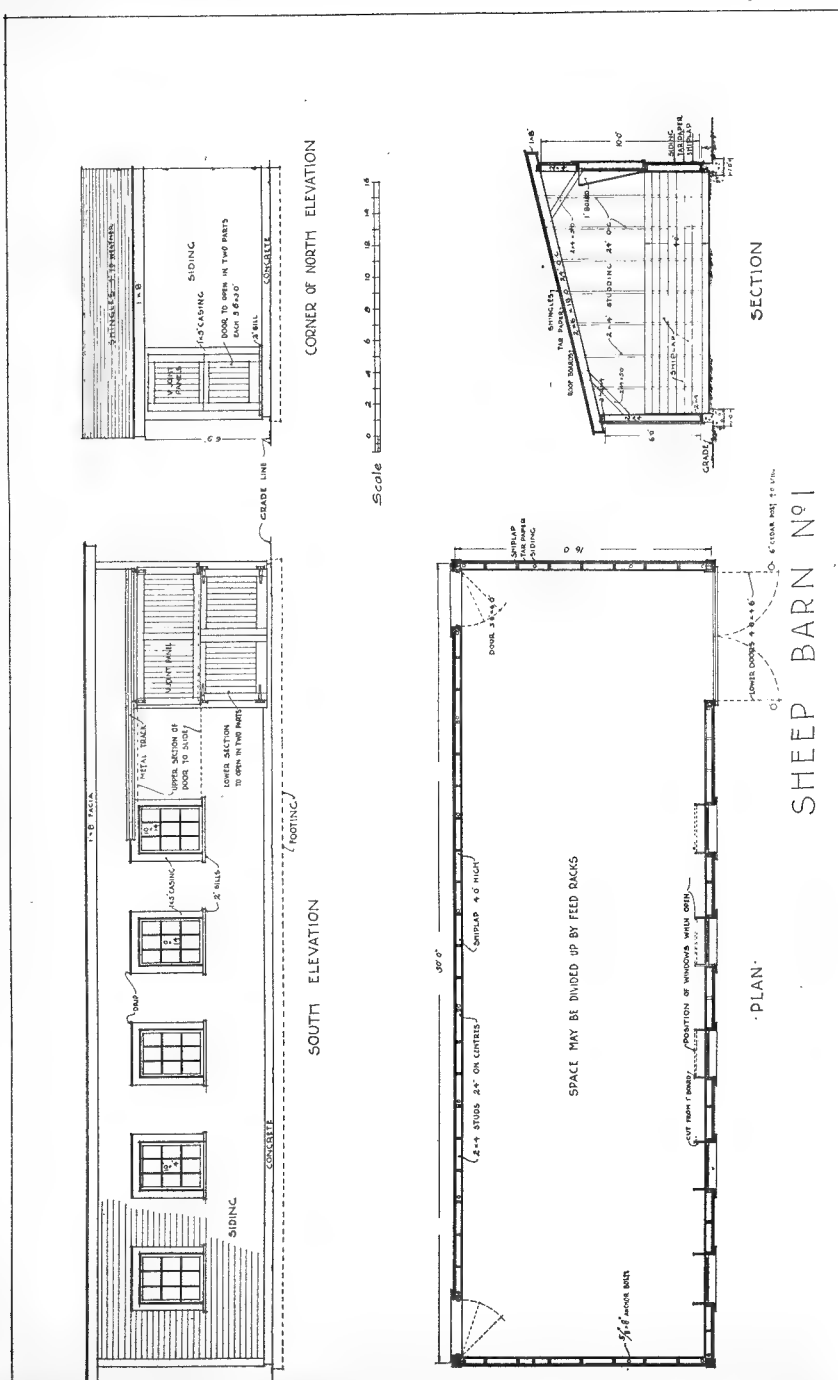


Fig. 1. Simply a cheap, shed-roof frame building, 16 x 50 feet, without any interior fittings, but suitable in every way for keeping sheep. A hundred ewes can be wintered comfortably in it.

## BILL OF MATERIAL, SHEEP BARN NO. 1.

*Framing Lumber.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
28	2	6	18	504	Rafters.
2	2	6	10	20	Beam over large doors.
21*	2	4	16	233	Sills and plates.
1*	2	4	14		
4	2	4	16	43	Studs cut for end walls.
28	2	4	10	187	Studs, front and end walls.
12	2	4	12	96	Studs, door and window trimming.
26	2	4	6	104	Studs, back walls.
5	2	4	10	33	Braces, to cut ten, 5' pieces.
Framing lbr., total ft. B.M.				1,220	

*Finish Lumber.*

2	2	8	5	13	Doors, sills, to cut 4' 6".
4	2	8	4	21	Doors, bottom rails rabbeted $\frac{3}{4}$ " x $\frac{3}{4}$ ".
2	2	6	10	20	Doors, stiles, etc.
8	2	6	3	24	Doors, stiles, etc.
3	2	6	4	12	Doors, stiles, etc.
8	2	6	4	32	Doors, top and bottom rails (six of these to cut 3' 6").
2	2	6	10	20	Doors, top and bottom rails, to cut 8' 6".
2	2	6	8	16	Door-frame jambs.
4	2	6	6	24	Door-frame jambs.
1	2	6	10	10	Door-frame header, cut 8' 4".
2	2	6	4	8	Door-frame header, cut 3' 10".
1	1	5	10	4	Door-casing top, to cut 9'.
2	1	5	8	7	Door-casing to sides.
4	1	5	6	10	Door-casing to sides.
1	1	5	10	4	Door-casing top, to cut 4' 4", two pieces.
20*	1	8	14	187	Fascia and soffit.
2	1	6	8	8	Corner-boards.
2	1	6	12	12	Corner-boards.
2	1	5	8	7	Corner-boards.
2	1	5	12	10	Corner-boards.
4	1	6	14	28	On top of shingles, front edge.
5	1	12	4	20	Cheeks to sashes, to cut ten cheeks.
Finish lbr., total ft. B.M.....				497	

\* Random lengths to make up the same total number of lineal feet will answer for these items.

- 110 feet, board measure, V-joint for doors, in 12' lengths.
- 2,900 feet, board measure, shiplap for walls and roof.
- 1,200 feet, board measure, siding for walls.
- 8,750 B.C. red cedar edge-grain shingles for roof (35 bundles).
- 5 sashes, 9 lights, 10" x 14" outside measure, 2' 10½" wide by 3' 11½" high.
- 5 frames for sashes with sills and casings for 6" walls.

### *Hardware.*

- 25 lb. 4" common nails for framing.
- 60 lb. 2½" common nails for shiplap.
- 30 lb. 2¼" flooring-nails for siding.
- 10 lb. 2" finishing-nails.
- 45 lb. 1¼" shingle-nails, galvanized, zinc-clad, or blued.
- 6 rolls tar-paper.
- 6 pairs 12" T-hinges.
- 18 feet door-track.
- 2 door-hangers.
- 5 pairs 5" T-hinges for windows.
- 4 hooks and eyes, 6", for doors.
- 24 bolts, ⅝" x 8", with nuts and double washers, for bolting sills to concrete foundation.
- 5 window-catches.
- 3 barn-door latches.
- 1 8" iron barrel-bolt for lower doors of large opening.
- 30 bags cement for foundation.
- 5 yards gravel for foundation.

### Sheep Barn No. 2.

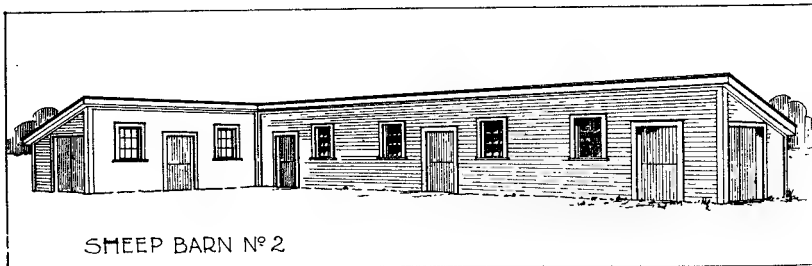


Fig. 2. An L-shaped barn, also cheap but efficient, which will easily accommodate 150 ewes. It is well lighted and the yard is on the sunny side, protected from the west wind by the L.

This is an easily constructed, cheap, but efficient barn. The main part is 14 x 80 feet, with an ell 14 x 26 feet attached to the west end and extending toward the south, thus providing shelter from the west winds. A ewe should have from 8 to 10 square feet of floor-space, so this building gives ample accommodation for 150 at least. Movable hurdles are used whenever it is necessary to divide the barn up into

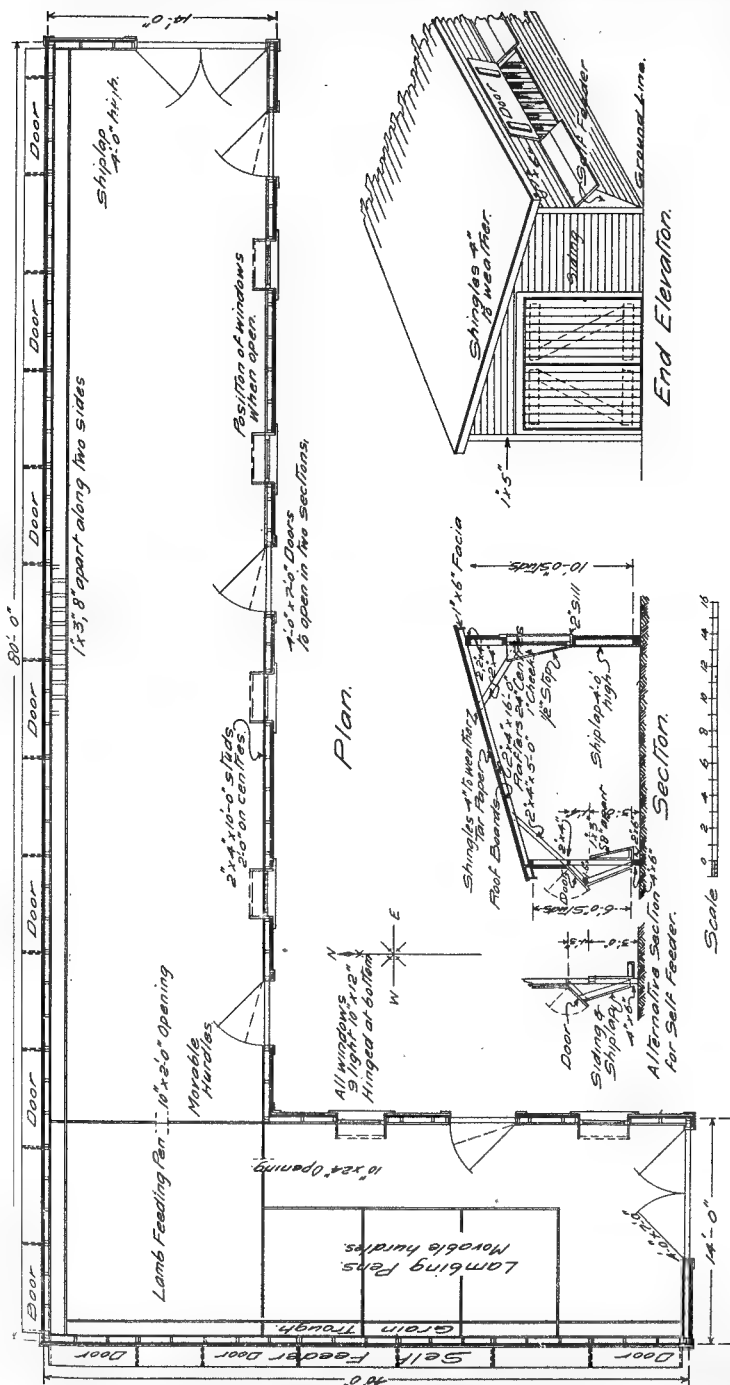


Fig. 3. The main part is 14 x 80 feet; the L 14 x 26 feet. A wagon can be driven through from end to end. The self-feeder can be filled either from inside or outside.





## BILL OF MATERIAL, SHEEP BARN NO. 2.

*Framing Lumber.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
15*	4	6	16	480	Sills.
2	2	6	20	40	Hip-rafters.
26*	2	4	16 }	287	Plates.
1*	2	4	14 }		
50	2	4	16	533	Rafters.
2	2	4	14	19	Rafters.
2	2	4	12	16	Rafters.
2	2	4	10	13	Rafters.
2	2	4	8	11	Rafters.
2	2	4	6	8	Rafters.
2	2	4	4	5	Rafters.
53	2	4	10	353	Studs, front.
4	2	4	14	37	Studs, front.
7	2	4	12	56	Studs, front.
64	2	4	6	256	Studs, back.
6	2	4	10	40	Studs, end walls.
6	2	4	8	32	Studs, end walls.
44*	2	4	16 }	483	Manger framing and rails.
2*	2	4	10 }		
20	2	4	10	133	Braces from studs to rafters, to cut 5'.
Framing lbr., total ft. B.M.				2,802	

*Finish Lumber.*

2*	1	10	12 }	100	Manger-trough bottom.
6*	1	10	16 }		
3	1	6	8	12	Corner-boards.
3	1	5	8	10	Corner-boards.
3	1	6	12	18	Corner-boards.
3	1	5	12	15	Corner-boards.
5*	1	6	16 }	46	On top of front row of shingles.
1*	1	6	12 }		
15*	1	6	16 }	125	Fascia.
1*	1	6	10 }		
15*	1	8	16 }	167	Soffit.
1*	1	8	10 }		
6*	1	4	16 }	40	Trough-side.
2*	1	4	12 }		
55	1	3	12	165	For self-feeder, to cut 3'.
12	2	6	8	96	Door-frame, rabbeted $\frac{3}{4}$ " x $\frac{3}{4}$ ".
2	2	6	10	20	Door-frame, rabbeted $\frac{3}{4}$ " x $\frac{3}{4}$ ".
4	2	6	4	16	Door-frame, rabbeted $\frac{3}{4}$ " x $\frac{3}{4}$ ".
12	1	5	8	40	Door-casing sides.
2	1	5	10	8	Door-casing headers.
4	1	5	5	8	Door-casing headers.
15*	1	1	16	20	Manger-lid and trough-bottom.
6	1	12	4	24	Cheeks to sashes, each cut 2'.
Finish lbr., total ft. B.M.				930	

\* Random lengths to make up the same total number of lineal feet will answer for these items.

- 17,000 B.C. red cedar edge-grain shingles (68 bundles).
- 2,200 feet, board measure, siding.
- 5,000 feet, board measure, shiplap.
- 300 feet, board measure, V-joint for doors.
- 6 sashes, 9 lights, 10" x 12" outside measurement, 2' 10½" wide by 3' 6" high.
- 6 frames for same with sills and casings for 6" wall.

#### *Hardware.*

- 50 lb. 4" common nails for framing.
- 110 lb. 2½" common nails for shiplap.
- 45 lb. 2¼" flooring-nails for siding.
- 20 lb. 2" finishing-nails.
- 85 lb. 1¼" shingle-nails, galvanized or zinc-clad.
- 6 hooks and eyes, 6".
- 14 pairs 12" T-hinges, with screws, for doors.
- 11 pairs 6" strap-hinges, with screws, for doors to mangers.
- 6 pairs 5" T-hinges, with screws, for windows.
- 6 window-catches.
- 6 barn-door latches.
- 10 rolls tar-paper.

#### **Sheep Barn No. 3.**

Figs. 5, 6, 7 show a more elaborate style, slightly more expensive, but also more convenient, with provision made for the storing of feed overhead. Permanent mangers are provided. The five doors on the south side make it easy to divide up a flock into various pens, and at the same time give them access to separate yards. This type of sheep-barn will appeal more strongly to the breeder of pure-bred sheep who keeps several breeds and wishes to give his breeding stock a little greater attention. A small feed-room provided with grain-bins, and opening out into an alleyway that runs the entire length of the building, make for convenience in feeding. This will prove to be a very satisfactory sheep-barn from every standpoint.

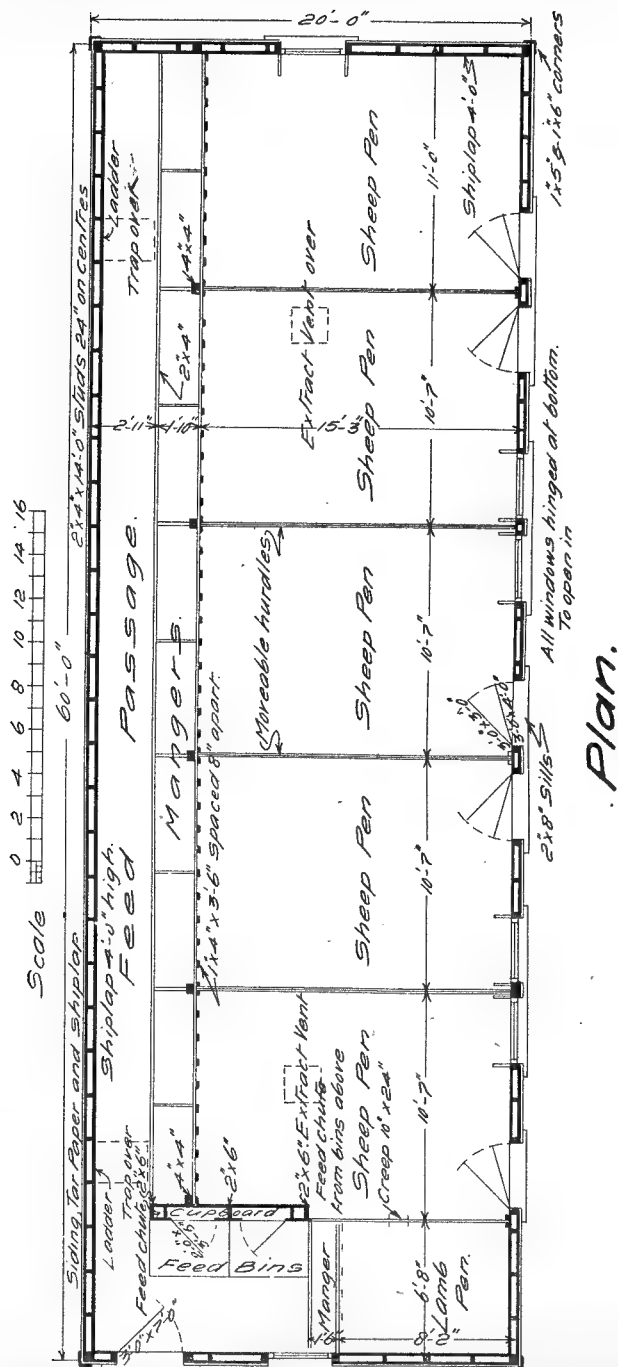
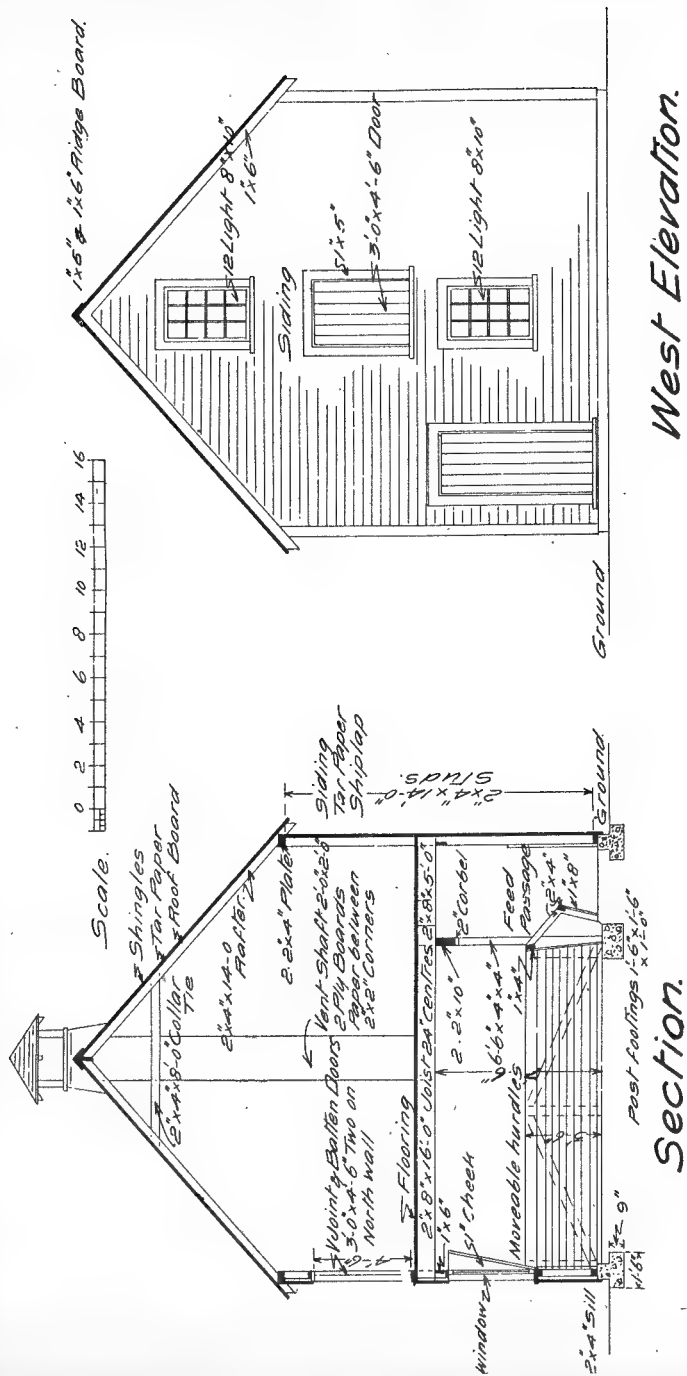


Fig. 5. A two-story building, 20 x 60 feet, with five pens and a feed-room on the ground floor. Suitable for a sheep-breeding barn.



*Sheep Barn No 3.*

Fig. 6. There is plenty of room for roughage in the loft.

# Sheep Barn No 3.

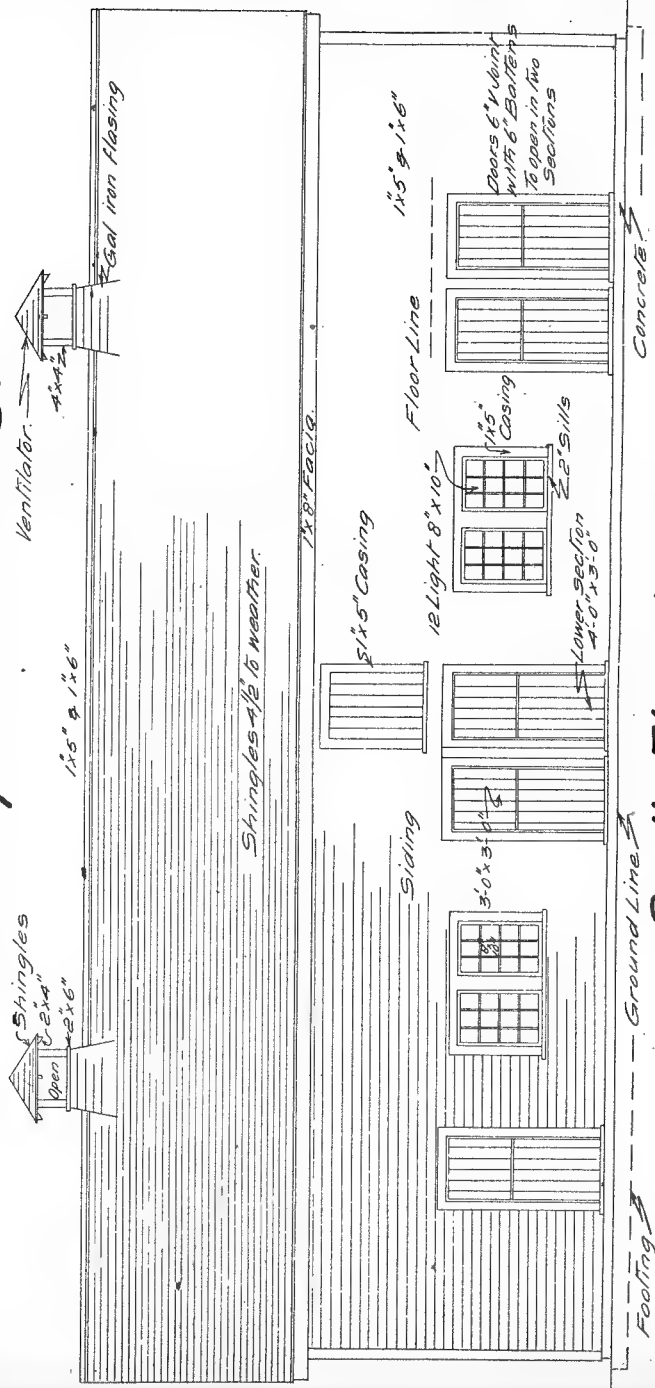


Fig. 7. The five doors on the south side make it easy to keep the sheep in separate pens, with a yard to each pen.

## BILL OF MATERIAL, SHEEP BARN No. 3.

*Framing Lumber.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
5	4	4	7	47	Posts inside, cut to 6' 6".
4	4	4	8	43	Posts to ventilators, cut 4'.
31	2	8	16	661	Joists.
16	2	8	10	213	Joists, to cut 5'.
10	2	10	12	200	Beams under joists.
2	2	10	8	27	Beams under joists.
3	2	6	8	24	Cupboard-studs.
2	2	6	12	24	Ventilator-stool.
25*	2	4	16	267	Sills and plates.
81	2	4	14	756	Studs, front, back, and end walls.
14	2	4	16	149	Studs, front, back, and end walls.
4	2	4	12	32	Studs, front, back, and end walls.
4	2	4	10	27	Studs, front, back, and end walls.
66	2	4	14	616	Rafters.
4	2	4	16	43	Ridge-board.
16	2	4	16	170	Collar-ties, to cut 8'.
20	2	4	12	160	Mangers.
3	2	4	10	20	Mangers.
8	2	4	8	43	Mangers.
3	2	4	10	20	Feed-bin framing.
1	2	4	8	5	Corbels, cut to 18".
6	2	4	10	40	Ventilator cupola, rafters, and plates.
4	2	4	12	32	Ventilator, etc.
6*	2	2	16 }	40	Bridging for joists.
2*	2	2	12 }		
8	2	2	16	43	Ventilator-shaft framing.
15	1	4	14	70	Manger-slats, cut 3' 6".
10	1	5	12	50	Ribbon strips under joists.
Framing lbr., total ft. B.M.				3,822	

*Finish Lumber.*

11	2	8	4	59	Door-sills.
4	1	6	16	32	Corner-boards.
4	1	5	16	27	Corner-boards.
4	1	6	16	32	Ridge cover-boards.
4	1	5	16	27	Ridge cover-boards.
4	1	6	14	28	Fascia to gables.
8	1	6	16	64	Fascia to eaves.
4	1	8	14	37	Soffit to gables.
8	1	8	16	85	Soffit to eaves.
12	1	7	7	49	Door-frames.
6	1	7	4	14	Door-frame heads.

\* Random lengths to make up the same total number of lineal feet will answer for these items.

BILL OF MATERIAL, SHEEP BARN No. 3—*Concluded.**Finish Lumber—Concluded.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
10	1	6	5	25	Door-frames, loft doors.
5	1	6	4	10	Door-frame heads, loft doors.
5*	1	4	12	20	Front to manger-trough.
12	1	5	7	35	Door-casing.
6	1	5	4	10	Door-casing.
5	1	5	10	21	Door-casing, cut to 4' 6".
5	1	5	4	8	Door-casing.
8*	1	6	16	75	Ledges and braces to doors.
1*	1	6	12		
1*	1	6	10		
6	1	12	4	24	Window-cheeks.
Finish lbr., total ft. B.M.....				682	

\* Random lengths to make up the same total number of lineal feet will answer for these items.

7,000 feet, board measure, shiplap for roof-boardings, outside walls, inside walls 4 ft. high, and ventilator-shafts.

3,000 feet, board measure, siding.

1,500 feet, board measure, No. 2 flooring, T. & G., B.C. fir.

400 feet, board measure, V-joint for doors and cupboard.

16,000 B.C. red cedar edge-grain shingles (64 bundles).

8 sashes, 12 lights, 8" x 10" outside measure, 2' 4½" wide by 3' 10" high.

8 sash-frames, sills, and casings for 6" wall.

*Hardware.*

80 lb. 4" common nails for framing.

120 lb. 2½" common nails for shiplap.

90 lb. 2¼" flooring-nails for siding.

80 lb. 1¼" shingle-nails, best galvanized or zinc-clad.

15 lb. 2" finishing-nails.

16 pairs 6" T-hinges for doors.

6 pairs 6" T-hinges for windows.

4 pairs 2½" butts for cupboards and bins.

6 catches for windows.

10 6" hooks and eyes for doors.

6 barn-door latches.

5 8" iron barrel-bolts for lower halves of doors.

18 feet galvanized iron flashing for roof at ventilators.

11 rolls tar-paper.

30 anchor bolts, ⅝" x 8", with nuts and double washers for anchor-sills to foundation.

10 yards of gravel for foundation.

50 bags cement.

*One Hurdle.*

(Multiply quantities by number of hurdles wanted.)

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
6	1	4	16	32	Rails.
1	1	6	16	8	Braces.
1	1	6	12	6	Uprights, to cut three pieces 3' 6".
Total board measure .....				46	

## Sheep Barn No. 4.

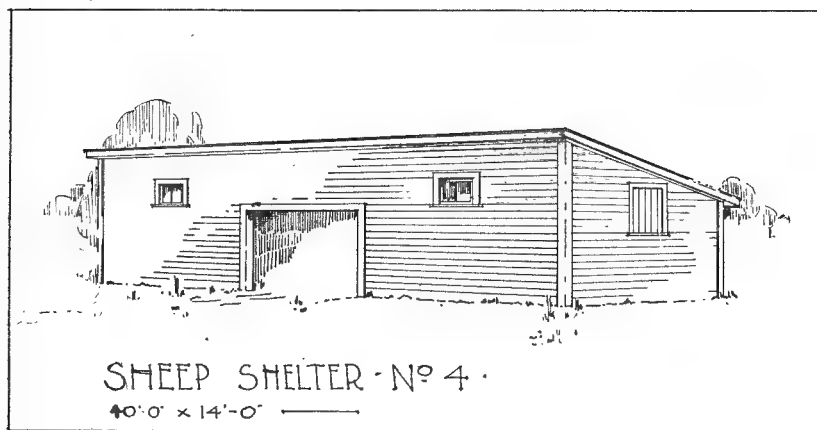


Fig. 8. Simply a cheap summer shelter, though it could be used also for winter quarters.

This is simply a summer shelter, although by boarding up part of the front and banking up the ends and north side with straw or manure a very satisfactory winter shelter for breeding ewes can also be provided. They would necessarily have to be fed outside on the ground or in racks, but if they were not crowded good results could be obtained by the use of this shelter both winter and summer.



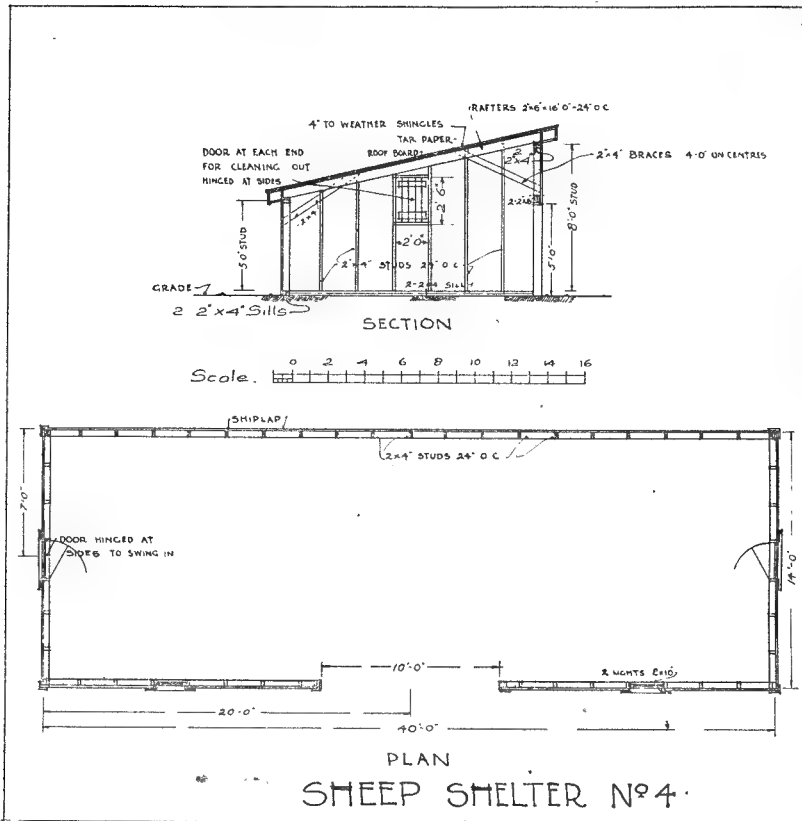


Fig. 9. The building is 14 x 40 feet and would accommodate over fifty sheep. They are fed outside in racks or on the ground.

#### BILL OF MATERIAL, SHEEP BARN No. 4.

##### *Framing Lumber.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
23	In.	In.	Ft.	368	Rafters.
25*	2	4	16 }	273	Sills and plates.
1*	2	4	10 }		
12	2	4	10	80	Studs, back wall, to cut 5'.
2	2	4	16	21	Studs to side wall, cut to fit rafters.
30	2	4	8	160	Studs to side and front wall.
2	2	4	6	8	Studs to side wall.
2	2	6	10	20	Beam over entrance.
7	2	4	10	47	Braces to rafters, to cut 5'.
Framing lbr., total ft. B.M.				977	

\* Random lengths to make up the same total number of lineal feet will answer for these items.

BILL OF MATERIAL, SHEEP BARN NO. 4—*Concluded.**Finish Lumber.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
2	2	6	3	6	Door-sills.
2	1	5	6	5	Corner-boards, back.
2	1	4	6	4	Corner-boards, back.
2	1	5	10	9	Corner-boards, front.
2	1	4	10	7	Corner-boards, front.
2	1	5	5	4	Jambs at entrance.
1	1	5	10	4	Head at entrance.
2	1	5	5	4	Casing at entrance.
1	1	5	12	5	Casing to top entrance.
2	1	5	6	5	Ledges and battens to end doors, cut to 2' 6".
1	1	5	10	4	Jambs for end doors.
1	1	5	6	3	Headers for end doors.
2	1	5	5	4	Casings to end doors.
1	1	5	6	3	Top casings.
3	1	5	14	18	On top of front row of shingles.
15	1	8	16	160	Fascia and soffit for eaves.
Finish lbr., total ft. B.M.....				245	

1,700 feet shiplap.

7,000 B.C. red cedar edge-grain shingles (28 bundles).

2 sashes, 2 lights, 8" x 10" outside measurements, 1' 8½" wide by  
1' 3" high.

2 sash-frames, casings, and sills for 5" wall.

*Hardware.*

20 lb. 4" nails.

30 lb. 1¼" shingle-nails, blued or galvanized or zinc-clad.

40 lb. 2½" common nails.

15 lb. 2" finishing-nails.

2 pairs 6" strap-hinges for end doors.

2 rolls tar-paper.

2 4" hooks and eyes.

**FEEDING DEVICES.**

This is a point where considerable difference of opinion exists, but for all practical purposes the methods here outlined will prove satisfactory. The movable combination hay and grain rack shown in Fig. 10 is to be preferred to the fixed manger, because it can be moved so

easily, used either inside or out, is easily cleaned, and when placed in the centre of the pen, or preferably outside in the yard, the sheep can eat from either side and cannot crowd or squeeze one another into the corners, as is the case where permanent mangers are in use. This

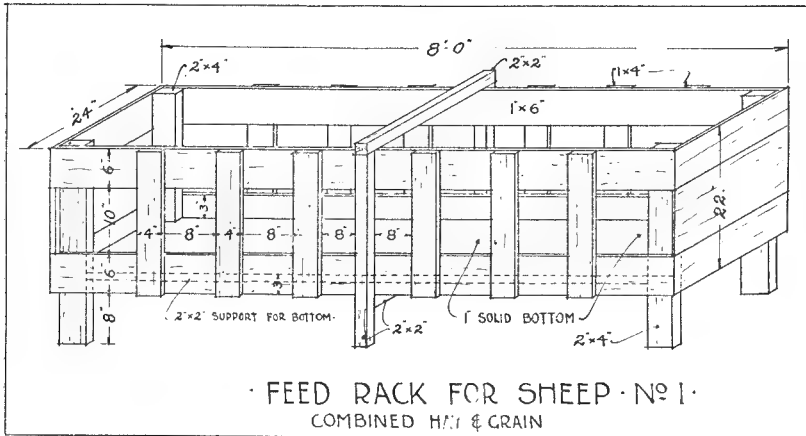


Fig. 10. The movable combination rack is one of the best feeding arrangements. It is easily moved and cleaned and prevents crowding.

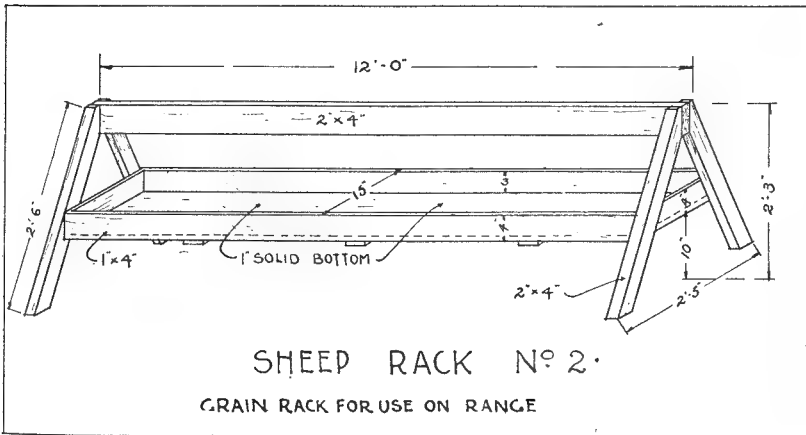


Fig. 11. This movable grain-rack is useful in the barn, field, or lamb-creep.

habit of crowding at the trough accounts for a good many dead lambs. The rack may be made any desired length. It has 8-inch spaces through which the sheep may put their heads and eat. Some favour

a rack that has slats only 3 inches apart, through which the sheep has to pull all its feed; the advantage in the latter, according to its advocates, being due to the fact that the sheep cannot get so much dust and chaff into the fleece of the head and neck. This is true to a certain extent, but it has the disadvantage in that the sheep in pulling out the hay between the slats waste a great deal by dropping it on the ground and trampling it underfoot. In the opinion of the writer, the rack shown in Fig. 10 is the best all-round sheep-feeding arrangement available. It can be used for roughage or grain, as the case may be, and if some care is taken in putting the feed into the rack no bad results from dirty fleeces will result.

Fig. 11 shows a suitable trough for feeding grain to sheep either in the barn or field. It will be found very useful for feeding lambs inside of a lamb-creep, where they can get away from the ewes and receive additional feed.

Another feeding device is shown in Fig. 4. It is a permanent one, but has the advantage of taking up little room, and can be filled from either inside or outside the building. It is used on the north and west sides of Sheep-barn No. 2, and runs the entire length of the building, the idea being to have stacks of roughage, oat-sheaves, etc., in close proximity. This arrangement enables the shepherd to feed the entire flock in a very few moments without entering the pens.

#### BILL OF MATERIAL FOR SHEEP-FEED RACKS.

##### *No. 1. Combined Hay and Grain Rack.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
1	2	4	10	7	Corner posts to cut 2' 6".
1	2	2	10	3	Cut two pieces 2' 6" for centre posts; one piece 2' 6" for centre tie on top; one piece 2' 2" for centre tie on bottom.
1	2	2	16	5	Floor-supports, to cut 7' 4".
4	1	6	8	16	Side rails.
1	1	6	10	5	End rails, to cut 2' 2".
1	1	10	4	3	Ends, to cut 2'.
2	1	4	12	8	Side slats, to cut 1' 10".
2	1	8	14	19	Shiplap for flooring, to cut 2'.
Total feet, B.M. ....				66	

BILL OF MATERIAL FOR SHEEP-FEED RACKS—*Concluded.*  
*No. 2. Grain Rack.*

No. of Pcs.	Thick.	Wide.	Long.	Feet Board Measure.	Used for.
	In.	In.	Ft.		
1	2	4	10	7	Legs, to cut 2' 6".
1	2	4	12	8	Top rail.
1	1	4	12	4	Sides, to cut 11' 8".
1	1	4	14	5	Sides and ends, to cut one piece 11' 8"; two pieces 1' 1".
2	1	7	12	14	Bottom, trim to 6½" x 11' 6".
1	1	2	4	1	Ledges under bottom, to cut 1' 3".
Total feet B.M. ....				39	

**FENCING.**

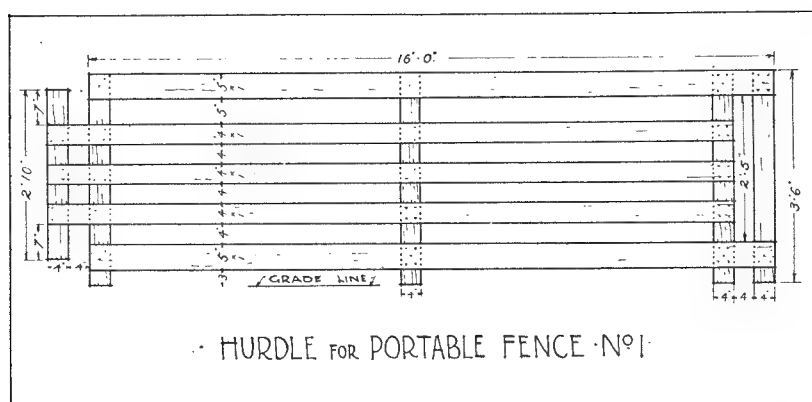


Fig. 12. Self-locking hurdles are very handy. Light but strong, they will stand a considerable wind-pressure.

Permanent fencing for sheep should be of woven wire about 32 inches high, with a couple of strands of barbed wire on top. This makes a reasonably dog- and coyote-proof fence. Portable hurdles are very handy, and by the use of them small areas of rough land can be enclosed, or the sheep can be changed easily and quickly from one part of a field to another. The two hurdles shown in Figs. 11 and 12 are quite satisfactory. They combine lightness with strength, and will stand a greater wind-strain than some of the other types of portable fences.

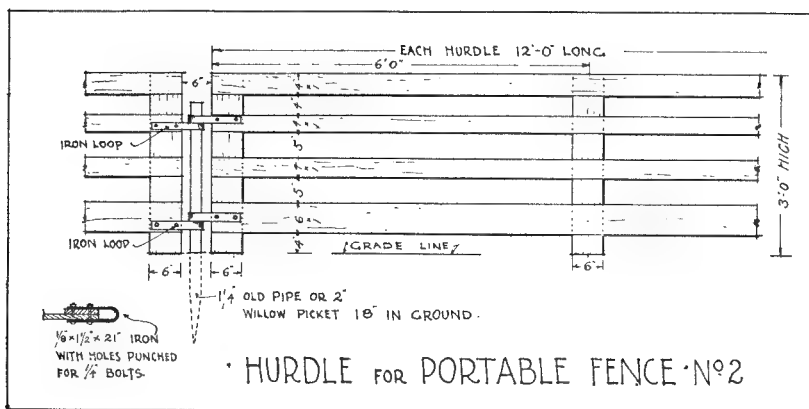


Fig. 13. Another good type, locked and held in place by pickets.

## BILL OF MATERIALS FOR HURDLES.

*Hurdle No. 1.*

- 2 pieces 1" x 5", 16' long.
- 3 pieces 1" x 4", 16' long.
- 4 pieces 1" x 4", 3' 6" long.
- 1 piece 1" x 4", 2' 10" long.
- 1 lb. 2 1/2" common nails.

*Hurdle No. 2.*

- 1 piece 1" x 6", 12' long.
- 3 pieces 1" x 4", 12' long.
- 3 pieces 1" x 6", 3' long.
- 1 lb. 2 1/2" common nails.
- 4 iron U-straps, 1/8" x 1 1/2" x 21", with holes punched for 1/4" bolts.
- 8 carriage-bolts, 1/4" x 4".
- 1 picket, 1 1/4" diameter by 4' or 5' long, of old iron pipe or wood.

BRITISH COLUMBIA DEPARTMENT OF LANDS.

FOREST SERVICE.

HON. WILLIAM R. ROSS, K.C., Minister of Lands.

---

## Wood as a Building Material.

Wood is supreme for **all-round usefulness**.

It is the **cheapest** building material obtainable.

It is also the **lightest**.

It is the **strongest**, weight for weight.

It is the **easiest** to work; **any one** can use it.

A wooden building is by far the **simplest** to **erect**.

Wood is **attractive** in **appearance**, and has **great variety** and **beauty** for interior finish.

Unlike metal and masonry, wood is almost a **non-conductor** of **heat** and **cold**.

A building with wooden walls and a wooden shingle roof is **warm** in winter and **cool** in summer and **dry** all the time.

Wood is therefore particularly **suitable** for **houses** and **barns**.

Wood is very **durable** in all kinds of building work **above ground**.

It will give **generations** of **service**, especially if well painted where exposed to the weather.

For use in **contact** with the **soil**, as mud-sills or fence-posts, a preservative should be applied or a specially resistant wood such as Western Red Cedar should be used.

---

# Woods to Use.

---

## Grown in British Columbia---Manufactured in British Columbia.

Woods differ in their qualities of strength, hardness, and durability. Certain kinds are particularly suited for certain uses. It is important to use the right wood in the right place.

(1.) **General Building Work.**—Douglas Fir, Western Larch, Western Hemlock, Mountain Western Pine, Mountain and Coast Spruce, Western White Pine.

(2.) **Framing and Dimension Timber, Posts, Beams, Rafters, Studs, Sills, Plates, Joists.**—Light construction: Same as No. 1. Heavy construction: Douglas Fir, Western Larch, Western Hemlock.

(3.) **Rough Lumber or Sheathing not exposed to Weather (Inside Work or covered by Siding or Lath and Plaster).**—Any British Columbia wood.

(4.) **Rough Outside Sheathing exposed to Weather (Outbuildings, etc.).**—Douglas Fir, Western Larch, Mountain Western Pine, Western Red Cedar, Coast and Mountain Spruce, Western White Pine.

(5.) **Siding.**—Western Red Cedar, Douglas Fir, Mountain Western Pine, Mountain and Coast Spruce.

(6.) **Roofing.**—Western Red Cedar edge-grain shingles, with galvanized, zinc-clad, zinc, or copper nails.

(7.) **Flooring, Stair Stepping, Sidewalks.**—Douglas Fir, Western Larch, Western Hemlock. Use edge-grain stock for hardest wear.

(8.) **Interior Finish, Panelling, Trim.**—Douglas Fir, solid or veneer (a beautiful grain, superior to most hardwoods), Western Larch, Western Hemlock, Western Red Cedar, Mountain Western Pine, Western White Pine.

(9.) **Doors, Window-sash.**—Douglas Fir, Western Red Cedar, Western Larch, Mountain Western Pine, Western White Pine.

(10.) **Fence-pickets.**—Douglas Fir, Western Larch, Western Red Cedar, Mountain Western Pine.



(11.) **Piling, Cribbing.**—Douglas Fir, Western Larch.

(12.) **Silos, Tanks.**—Douglas Fir, Western Larch, Western Red Cedar.

(13.) **Ground-sills, Skids, Fence-posts, Poles, Conduits, Drains, and wherever Wood is in Contact with the Ground.**—Western Red Cedar or creosoted wood. Use Douglas Fir or Western Larch where strength and hardness are essential.

(14.) **Furniture, Tables, Settees, etc.**—Douglas Fir, Mountain Western Pine, Coast or Mountain Spruce, Western White Pine, Western Red Cedar.

NOTE.—Western Hemlock is superior in every way to Eastern Hemlock—an entirely different tree—and should not be confused with it.

---

## BRITISH COLUMBIA FOREST SERVICE BULLETINS.

### Farm Buildings Series.

1. Combination or General Purpose Barns for Prairie Farms.
2. Dairy Barns, Milk and Ice Houses for Prairie Farms.
3. Beef Cattle Barns for Prairie Farms.
4. Horse Barns for Prairie Farms.
5. Sheep Barns for Prairie Farms.
6. Piggeries and Smokehouse for Prairie Farms.
7. Poultry Houses for Prairie Farms.
8. Implement Sheds and Granaries for Prairie Farms.
9. Silos and Root Cellar for Prairie Farms.
10. Farm Houses for Prairie Farms.

### Timber Series.

11. British Columbia Box Woods.
12. How to finish British Columbia Woods.
13. British Columbia Tie Timber.
14. British Columbia Dimension Timber.

The above bulletins, and also further information concerning British Columbia timber, are obtainable **free** from the Chief Forester, Victoria, B.C. Of the Timber Series, Bulletin No. 12, "How to Finish British Columbia Woods," is of special interest to home builders and owners, carpenters, architects, and building contractors.

### OTHER PUBLICATIONS.

Many publications and much useful information on farming and related subjects can be obtained on request from the various Government Public Service organizations of Canada, listed below.

(1.) **Alberta:**

Department of Agriculture, Edmonton.  
University of Alberta, Edmonton.  
Agricultural Schools at Olds, Vermilion, and Lethbridge.  
Dominion Experimental Stations at Lethbridge, Lacombe, and Fort Vermilion.

(2.) **British Columbia:**

Department of Agriculture, Victoria, B.C.  
Dominion Experimental Farm, Agassiz, and Experimental Stations at Sidney, Salmon Arm, Summerland, and Invermere.

(3.) **Dominion:**

Department of Agriculture, Ottawa, Ont.  
Dominion Forestry Branch, Ottawa, Ont.

(4.) **Manitoba:**

Department of Agriculture, Winnipeg.  
Manitoba Agricultural College, Winnipeg.  
Dominion Experimental Farm, Brandon, and Experimental Station at Morden.

(5.) **Saskatchewan:**

Department of Agriculture, Regina.  
University of Saskatchewan, Saskatoon.  
Dominion Experimental Farm, Indian Head; Forestry Station, Indian Head; and Experimental Stations at Scott and Rosthern.

---

BRITISH COLUMBIA

Four Hundred Billion Feet  
of Timber  
*READY FOR USE*

---

Half Canada's Supply

---

Over Four Hundred Mills Manufacturing  
Fifteen Hundred Million Feet  
a Year into

Dimension Material, Boards, Shingles, Siding, Interior Finish,  
Flooring, Ceiling, Sash and Doors, Lath, Boxes,  
Cooperage, Wooden Pipes, Tanks and Silos,  
Pulp and Paper, Bridge Timbers, Mine  
Props, Elevator Cribbing, Tele-  
phone Poles, Piling, Railway  
Ties, Fence Posts, Pickets,  
Paving Blocks,  
Furniture,  
and numerous other products.

# B.C. LUMBER

FOR THE

## PRAIRIE FARM

### QUANTITY

The Province contains over 400,000,000,000 feet board measure, or over half the standing timber of Canada. There is plenty of it.

### QUALITY

The forests of British Columbia grow the best timber it is possible to obtain.

### USEFULNESS

The timber trees of British Columbia supply the

### MOST USEFUL OF ALL WOODS,

particularly for building work, because of their lightness, strength, and ease of working.

**British Columbia Timber  
is "made in Canada"**

The lumber industry engaged in its manufacture is one of the best markets for the products of the farms of Western Canada. It is sound sentiment and sound business for Canadian farmers to buy

# B.C. LUMBER